MARKED-UP CLAIMS WITH AMENDMENTS SHOWN

1. (Amended) A method to optimize information retrieval based on communication relationships, comprising the steps of:

automatically extracting and integrating relationship information from multiple heterogeneous information sources;

automatically building and storing a relationship data structure to represent the relationship information; and

automatically modifying a query based on the relationship data structure.

40. (Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for optimize information retrieval based on communication relationships, said method steps comprising:

automatically extracting and integrating relationship information from multiple heterogeneous information sources;

automatically building and storing a data structure to represent the relationship information; and

automatically modifying a query based on the relationship data structure.

NEW VERSIONS OF CLAIMS 1 AND 40 WITH INCORPORATED AMENDMENTS

1. A method to optimize information retrieval based on communication relationships, comprising the steps of:

automatically extracting and integrating relationship information from multiple heterogeneous information sources;

automatically building and storing a relationship data structure to represent the relationship information; and

automatically modifying a query based on the relationship data structure.

40. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for optimize information retrieval based on communication relationships, said method steps comprising:

automatically extracting and integrating relationship information from multiple heterogeneous information sources;

automatically building and storing a data structure to represent the relationship information; and

automatically modifying a query based on the relationship data structure.

REMARKS

Claims 1-41 are currently pending. The Examiner has rejected all of Claims 1-41 under 35 USC §103 as unpatentable over the Paul, et al patent. For the reasons set forth below, Applicants respectfully submit that Claims 1-41 are patentable over the cited prior art.

The Paul patent is directed to an electronic mail (hereinafter "e-mail") filtering system which compares content of an incoming e-mail message to a list of terms on an exclusion list. If the incoming e-mail content matches any term on the exclusion list, the e-mail is marked as "junk mail". Applicants note that the first claim step is the step of extracting and integrating relationship information from multiple heterogeneous information sources. Applicants refer the Examiner to the Specification (e.g., page 7, line 12-page 8, line 12) where the term "relationship information" is detailed. As a first argument, Applicants assert that the Paul patent teachings do not discuss or suggest the concept of "relationship information from multiple heterogeneous information sources". The cited teachings of the Paul patent do not teach or suggest relationship information nor do they teach or suggest steps of extracting and integrating relationship information. What the cited Paul passage, at Col. 6, lines 45-50, teaches is that the "FROM" field of an incoming e-mail is compared to entries in an exclusion

list. The "FROM" information is not extracted from the e-mail, nor is that information integrated with any other information from any other sources. The text is simply compared. Clearly, therefore, the Paul step of comparing would not suggest extracting and integrating as claimed. Further, the Paul step of flagging or marking the e-mail as "junk" would not suggest extraction and integration of relationship information from the e-mail. The Paul step does not integrate information from multiple heterogeneous information sources...it simply flags one e-mail as "junk".

The Examiner goes on to conclude that the Paul patent teaches or suggests the step of modifying a query based on the relationship data structure. However, Applicants note that the Paul patent does not teach the building and storing of a relationship data structure, let alone the use thereof. The Paul patent does teach that an exclusion list is created and maintained; and, the Examiner expressly acknowledges that the Paul patent does such creation and modification manually by the user or the service provider. Accordingly, it cannot be concluded that the automatic building and storing of a relationship data structure from relationship information which is automatically extracted and integrated, would be suggested by the Paul teachings of manual creation and manual updating of an exclusion list. Moreover, the Examiner is using the Paul modification teachings against the claim step of automatically

modifying a user query based on the relationship data structure. The claim step is not directed to modifying the data structure but to modifying an incoming query based on information in the relationship data structure to expedite processing of the query.

The Examiner states that the Paul patent implicitly shows the claimed modifying because the e-mail is marked, which marking may affect subsequent processing. While marking the e-mail is a filtering technique which can assist a human user in subsequent mail processing, such is not the same as nor suggestive of automatically modifying a query based on a relationship data structure. Paul does not modify the e-mail; it simply marks it. Moreover, the e-mail is mot marked based on a relationship data structure which has been automatically built to represent relationship information which has been automatically extracted and integrated from multiple heterogeneous information sources. Paul simply marks the e-mail because some of its content matches an entry on an exclusion list.

Finally, the Examiner concludes that it would have been obvious for Paul to build and store a relationship data structure. Applicants respectfully disagree. What the Paul patent teaches, in the cited passages at Columns 8 and 9, is the e-mail filtering using an exclusion list, or a plurality of exclusion lists, one for each e-mail address if implemented at a server. There is simply nothing in the Paul patent which teaches or suggests that relationships between prior and present

communications be detected by extraction and integration of relationship information. Further, there is no suggestion that a relationship data structure be created based on such extraction and integration. Finally, there is nothing to suggest that incoming queries be modified at all, let alone based on relationship information in a relationship data structure which has been built and stored based on the extraction and integration of information from prior communications.

Applicants respectfully assert that the terms which are used in the pending claims are not arbitrarily chosen, nor can they be arbitrarily re-interpreted by the Examiner. The claimed relationship information is defined and explained in the Specification (see: e.g., page 7, line 12-page 8, line 12; and page 10, line 8-page 20, line 7) and cannot simply be re-defined by the Examiner to mean merely "entries on a manually-created user exclusion list". Paul's exclusion list is NOT a relationship data structure and the Paul entries are not relationship information. Accordingly, one skilled in the art would not leap to the conclusion that Paul's system for comparing incoming text to a list of entries could be modified to automatically extract relationship information from prior communications and proceed to integrate, build, store, and use such relationship information, let alone modify future communications based on that relationship information. Applicants respectfully request that the Examiner reconsider the

language of the claims, in light of the Specification, and withdraw the rejections.

Applicants have amended the independent claims to emphasize the fact that the claimed invention includes automatic steps of extracting and integrating, of building and storing, and of modifying. Based on the foregoing amendments and remarks, Applicants request entry of the amendments, withdrawal of the rejections, and issuance of the claims.

Respectfully submitted,
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